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METALLURGICAL LABORATORY

1/20/44

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T. E. Hall — Security

J. C. Pyle — Safety

Fire at Armory Shipping Room, 1-23-44

We had another fire!

It was extinguished by Municipal fire equipment!

It is undoubtedly too much to hope that the time will ever come when the first statement need never be repeated. But, until that second statement can be changed to read at all times, "The fire was discovered and extinguished in its earliest stages by trained project personnel, with a minimum of confusion," then the Safety Section has a tremendous responsibility and an urgent backlog of unfinished business.

Specific Fire Report

Building - Armory
Location - Shipping Room
Immediate Person in charge - David Rudolph for special materials. Mr. Ellen in nominal control of shipping activities.
General - Persons in charge - Tony Mato, in charge of Receiving Area, acting for Mr. Blair, Property chief.
Time - Approximately, 5:15 P.M., 1-23-44
Origin - Explosion of one or more tightly sealed metal pails of oxide.
Extent - Force of explosion or flash igniting dislocated wallboard-and-frame partition immediately adjacent to the stored material. Fire spread to nearby excelsior, table, papers, wall framing and partition material.
Damage - Probably $100.00 to construction details added to building by Metallurgy. No damage to the State owned building. Damage to equipment and property in route through shipping and receiving rooms difficult to estimate - Perhaps $250.00 - $500.00, partially due to water damage. Some damage to personal clothing.
Injuries - None

Narrative Report as Assembled by Safety Section -
Approximately a dozen pails of oxide had been shipped in from out of town location, without covering instructions for handling or explanation of contents. The material was presumably shipped dry. The oxide was such that a chemical reaction slowly went on within the air tight containers until sufficient hydrogen accumulated to burst the containers of at least one of the pails.

Other pails blew open, whether from concussion or outside heat, or from interior pressure is not know.

Higgins, Dispatcher, saw the first container start to "bubble" out and called David Rudolph, in charge of special materials. By the time Rudolph got to the doorway the hydrogen had burst into flame and the fire was on.

At least two Foamite extinguishers, one 2 gallon water pump, and one 1½" hose were brought into action by Project personnel.

However, the confusion and uneasiness among the less cool headed workers as a result of the alarm that "explosive material" had started the fire, caused the City Fire Department to be called, and the fire was quickly brought under control and extinguished. Water damage was relatively great.

The two Foamite extinguishers nearest the blaze, and the nearest hose lines were untouched.

Mr. Rudolph had the presence of mind to call Dr. Creutz immediately after the outbreak of the fire. Dr. Creutz was the only one on the scene who knew enough about the properties of the oxides to analyze the origins of the fire and make recommendations for handling the remainder of the oxide to prevent recurrence of the fire.

Potential Damage—Dry oxide was blown over a large area of the receiving and store room when the shipping room wall let go. Wet oxide was tracked around by firemen and project personnel.

Dr. Creutz pointed out that this widespread contamination probably presented no physical hazards, but certainly constituted a tremendous potential hazard to laboratory work if permitted to get out to various counting rooms and the like. He recommended a thorough clearing of everything affected, and a warning to receivers of the material that a residual contamination might exist.

Recommendations —(A number of full, compressed gas cylinders were stored in the adjoining room, next to the partition which was damaged. The fire might have gotten to those tanks and could have multiplied many-fold. Mr. Miller, Storekeeper, thought of this and confined most of this to playing an extinguisher over the cylinders closest to the fire.)

A recommendation for an outside location for storage of full cylinders was made some time ago. When that recommendation was changed to permit inside storage, the safety section tacitly approved on the basis that any rack was better than no rack

at all.

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At the time of the fire, only a few empty cylinders were in the newly constructed racks.

1. Therfore;-Without further ado, let an outside shed and rack be constructed for compressed gas cylinders. Let thosetanks holding combustible gasses be separated from those which hold gases supporting combustion, by a fire resistant partition, or by distance.

2. Let Dr. Crouts, and those others who are thoroughly familiar with all of the implications of the type of material responsible for the fire, prepare a report that will guide the Safety and Security peopl and all others, in the care and handling of such materials.

3. Burning excelsior helped to feed this fire. Again, let it be reiterated that this type of combustion material must be eliminated from the scene at the earliest possible moment and the first possible point. In this instance the excelsior was supposedly there to use in preparing articles for shipment. The stuff should be brought to the shipping room only as needed, and used immediately.

   In the receiving area, some plan should be worked out to get rid of excelsior, shredded paper and the like, as soon as a package is opened. A delivery procedure should be activated that will make it unnecessary to repack equipment and material for delivery to the local sites.

4. The proper training of Armory personnel in the co-ordinated fighting of fires will necessarily follo completion of such work at Site B and the West Stands. But there should be no delay beyond that point. Most of them have already received instruction, or are familiar with the use of extinguishers.)